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AUTHOR Erickson, Bonnie H.; Nosanchuk, T. A.
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ABSTRACT

According to sociological conventional wisdom, contact of the right kind in the right setting reduces stereotyping. Some research supports this hypothesis, some does not, and most can be challenged because the hypothesis conditions were not clearly met. This study attempted to meet the necessary conditions by using an unusually suitable setting, as well as refined measures of contact and of age, gender, and ethnic stereotyping. Interviews were conducted of 542 bridge players at the Ottawa-Hull branch of the American Contract Bridge League. Measures of contact were well indicated by the number of fellow players with whom a player was acquainted. Dimensions of age, gender, and ethnic stereotyping consisted of a set of semantic differentials. Respondents rated: (1) women as bridge players, men as bridge players, and women in general; (2) older people as bridge players, younger people as bridge players, and older people in general; (3) French Canadians as bridge players and as people in general. All measures were self-reports except for one measure of skill. The results failed to support the hypothesis that contact reduces stereotyping. Neither the frequency and duration of activity nor the proportion of group members in weak and in strong ties reduced stereotyped perceptions. The findings suggest that involvement in the core of the subculture actually increases stereotyping in that core players were more willing than periphery players to give ratings for little-known groups and to give extreme ratings for well-known groups. Greater subcultural involvement, experience, and communication only seemed to give greater confidence in applying general stereotypes to the specific setting. (NB)

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BRIDGING THE GAP: CONTACT AND STEREOTYPING

Bonnie H. Erickson

Sociology

University of Toronto

T. A. Nosanchuk

Sociology and Anthropology

Carleton University

June 1986

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ABSTRACT

According to sociological conventional wisdom, contact of the right kind in the right setting reduces stereotyping. Some research supports this hypothesis, some does not, and most can be challenged because the hypothesis conditions were not clearly met. We attempt to clarify matters by using an unusually suitable setting, as well as unusually refined measures of contact and of age, gender, and ethnic stereotyping. The procedures and predictions are drawn from a social cognition interpretation of stereotyping. No form of contact reduces stereotyping. Involvement in the core of a subculture actually increases stereotyping, probably because extensive experience and communication gives confidence in applying general stereotypes to the specific setting. So long as large scale structures reinforce social stereotypes, small scale settings can do little to change them.

Can stereotyping be reduced by suitable forms of contact? The classic contention, based largely on research on race and ethnic groups, is that contact does reduce stereotyping if it is the right kind of contact in the right setting. The setting should encourage frequent and close interaction across group boundaries, not mere joint presence; should have cooperative pursuit of shared goals rather than competition and incompatible goals; should have support for egalitarian attitudes from authorities and local norms; and should bring together group members who are equal on the status characteristics salient in the setting (Amir 1969).

While this hypothesis is intuitively appealing, its status is uncertain because of several problems typical of earlier research. First, in earlier reports either we do not know whether the conditions of the hypothesis have been met, or we know that some have not been met. For example, groups should be of equal status. But much research does not examine the real traits of ethnic groups (Brigham 1971) and studies of integrated schools in the United States note that black and white students are not equal on salient dimensions like reading skills (e.g. Cohen 1984). Meanwhile some studies of ethnic contact show reduced stereotyping and some do not; it is all too easy to hail the positive results as support for the contact hypothesis while dismissing the negative cases because they do not clearly meet the conditions of the hypothesis. Studies of contact between other types of groups have been fewer and just as inconclusive.

For example the introduction of female cadets at U.S. military academies made male cadets if anything more sexist, possibly because the women were poorer in physical skills or the contact was unwilling for most of the men (DeFleur, Gillman, and Marshak 1978; Durning 1978; Priest, Vitters, and Prince 1978). Thus the contact hypothesis is neither clearly supported nor clearly rejected. Here we attempt to clarify the picture by examining ethnic, gender and age stereotyping in a setting that meets the conditions of the hypothesis at least as clearly as any in the literature.

Further problems follow from the fact that earlier studies often lacked a theoretical framework for a hypothesis largely rooted in common sense induction. Lacking theoretical guidance, researchers have measured both contact and stereotyping in a wide variety of inconsistent and generally crude ways. Here we draw on recent work in social cognition, work which both gives a rationale for the traditional contact hypothesis and suggests more detailed predictions. These predictions fit comfortably with relatively detailed and sophisticated measures of contact, which we draw from network analysis, and of stereotyping, which we adapt from the study of political belief systems.

Our goal then is to improve research on the contact hypothesis, by applying improved theory and technique in an unusually suitable setting.

THEORETICAL BACKGROUND

A stereotype is "a set of beliefs about the personal attributes of a group of people" (Ashmore and Del Boca 1981) and hence a form of social cognition. Experimental work on cognition shows that people consistently simplify information in ways that make it easier to observe, code, and recall. For any kind of grouping, including groups artificially constructed in experiments and thus unaffected by social stereotyping, the perception and recall of differences between groups is exaggerated while differences within groups are reduced.

Other perceptual biases develop if subjects become members of these artificial groups as well as observing them. Despite their involuntary assignment to categories meaningless outside the experiment, people usually have more contact with members of their own group and are more attracted to them, so that they are exposed to more individuating information and are more motivated to notice it. Thus, members of an outgroup are seen as all much alike, while individual differences among ingroup members are more noticed (Wilder 1981). Further, since shared group membership is attractive, members of one's ingroup are seen more positively than members of an outgroup (Billig and Tajfel 1973; Sherif and Sherif 1953).

All these trends are intensified for stereotyped groups because people selectively perceive and recall what they expect

to see, even when given information carefully constructed to run contrary to stereotype (Hamilton 1981b).

It follows (Hamilton 1981a) that stereotyping should be reduced by a variety of factors. The most important individual factor is cognitive complexity, since the cognitively complex have less need to simplify group distributions of attributes. Contextual factors are much the same as the conditions for the contact hypothesis. Cognitive biases are weakest in contexts with real equality between groups, ample opportunity to observe this equality, and powerful motivation to do so. Ideally then, groups should be equal in characteristics important within the setting. Contact between groups should be frequent and rich in relevant content, so that people are exposed to as much individuating information about outsiders as about insiders. Their motivation to notice the real equality and variation stems from factors that reduce the salience of group divisions and increase the salience of a new ingroup including everyone in the setting. Such factors include a sense of common good in a valued setting voluntarily chosen. The traditional conditions for the contact hypothesis have also been derived from other perspectives, for example Brewer and Miller's (1984) social identity analysis.

This discussion suggests that many forms of contact could reduce stereotyping, so long as they enhance individuating information or the motivation to notice it. Traditional measures are flawed both because they usually are limited to just one type

of contact, and because that type may not be a theoretically relevant one. For example, studies often simply record the apparent changes produced by participation in an integrated setting, with no information about the quantity or quality of contact between members of different groups (e. g. Robinson and Preston 1976). Exposure to a favorable setting may well be important, but there are at least two distinct measures of the degree of exposure. First is the sheer volume of participation, or the frequency and duration of a person's activities in the setting. The greater this is, the more opportunities there are to observe individuating facts. Second is the centrality of participation. People at the center of a network know more people, thus gaining a wider range of potential information, and they also are more highly committed to the overall group and more likely to see their fellows as members of that common ingroup.

The theory also implies that stereotyping should vary with the degree of contact within the setting. The greater the proportion of contacts crossing group boundaries, the more individuating information will be encountered and noticed. But what kinds of contact relationships should we look at? Much of the literature suggests that ties should be reasonably strong so that outgroup members become well known and well liked. If so, stereotyping is lower for people with higher proportions of outgroup members among their strongest ties in the setting. Perhaps ties not limited to the setting, but generalized into friendships, would provide even more information and attraction

and thus reduce stereotyping still more. On the other hand, strong ties are few in number so that counterstereotypical experiences can easily be dismissed as special cases ("my pal Jane isn't passive like most women"). Thus the far more numerous weak ties may also be important. If people encounter individuating information over and over again, through a large proportion of weak ties to outgroup members, they may well be driven to attribute traits to individuals rather than to groups.

The concept "stereotyping" should be broken down because the hypotheses above refer to (1) perceived versus real differences between groups, (2) perceived versus real differences within groups, (3) perception of individual differences for ingroups versus outgroups, and (4) the degree to which perceptions are positive. Since stereotyping is to a large extent a social phenomenon, not entirely a matter of individual cognition, we also want to consider (5) the extent to which perceptions use a common framework.

To address this rather complex problem we follow the work of Barton and Parsons (1977) who developed useful techniques in analyzing political belief systems. Mueller and Judd (1981) provide an interesting application. Barton and Parsons point out that the common reliance on correlational techniques (including factor analysis) fails when people thoroughly agree on a set of political views or on a set of perceptions of a stereotyped group. The small variations in their views are mostly random and hence very poorly correlated. Their perceptions seem unrelated

precisely because they are so much the same. Thus these authors propose refining belief analysis with the use of several different measures for different aspects of belief structuring. Let us say that we have a set of items measuring perceptions of a group. The first step is identification of unidimensional subsets of items. Factor analysis is a good strategy here, provided that one has a sufficiently diverse population to get useful variation. Barton and Parsons define group consensus on a dimension as the average variability of items, with lower variability being greater consensus. This is stereotyping in our fifth sense above, the extent to which perceptions are socially shared. Uniformity of perception is undermined when group members have extensive and variable individual experiences and accurately perceive them. Thus, we predict, consensus is greater for outgroups than for ingroups. Core members of a setting are the ones most intensely involved in a new overarching ingroup, so we predict that consensus about any social group is lower in the core than in the periphery.

Barton and Parsons also define individual consistency on a dimension (or constraint, in their language) as the extent to which a person takes the same position on various items relative to others in the same population. Consistency is thus the individual-level standard deviation of standardized responses to the items on a given dimension. It will be high when people implicitly think in terms of the dimensions socially defined and have a clearly defined opinion of where a group belongs on these

dimensions. It is thus related to stereotyping in our third sense above, the awareness of individual differences within and between groups. Individual consistency should be greater for outgroups than for ingroups, should be lower for the more cognitively complex, and should be reduced by contact in any form.

Our fourth facet of stereotyping is the degree to which perceptions are positive. We equate this with Barton and Parson's extremity on a dimension, or the mean of responses to the standardized items composing the dimension; we of course assume that the items have if necessary been recoded so that higher values are more positive ratings. We expect perceptions to be more positive for ingroups (which are more attractive), for higher levels of contact with any group (providing more attraction and individuating information), and perhaps for the more highly educated (since education is sometimes thought to reduce negative attitudes and stereotyping).

The first sense of stereotyping listed above concerned real versus perceived differences between groups. Here we cannot simply inspect the differences of means for perceptual items versus those for measures of real differences, since the two sets of measurements are likely to be different in kind. However we can compare the correlation of group membership with rated traits versus the correlation with real ones, expecting the former to be greater. We also predict that the perceived traits of group representatives within a setting will be correlated with the

perceived traits of group members in general, as general social stereotypes shape perception of the specific realities encountered in the setting.

Finally, stereotyping in the second sense concerns perceived versus real differences within groups. Neither our data nor Barton and Parson's framework can address this topic.

SETTING

The setting for this study is the Ottawa-Hull branch of the American Contract Bridge League, which organizes competitive duplicate bridge. 542 players, or about 82% of potentially available members, were interviewed. Respondents were 67% male, 73% had at least some university training, 64% had white collar jobs, and age ranged from 22 to 88 with about a third aged 55 or over and a third aged 36 or less. 10% (or 51 people) were of francophone origin (they reported French as the language they first learned and still understood). We chose to focus on French Canadians because we felt they would be an ethnic group of special interest in a bilingual country's national capital situated in an English province but across the river from Quebec.

The setting should be voluntary and valued; bridge is a freely chosen leisure activity, rated the favorite leisure activity by a majority of respondents. Official rules, organization policies, and informal norms are all highly egalitarian. Open, fair, and friendly bridge play is important to all.

Players have a shared common goal in the enjoyment and promotion of their game. Competition is ardent, but it is competition against the entire pool of fellow players rather than between social groups. Interaction between groups is voluminous since the rules for duplicate bridge force players to encounter a variety of randomly assigned opponents during every game. The average player knows at least one hundred fellow players, and those known are quite diversified in age and gender. Finally, and perhaps most important of all, there are at most minuscule age or gender or ethnic differences in the traits that bridge players care about, as we shall soon see. All in all, it is hard to think of a setting more closely conforming to the conditions of the contact hypothesis. We can make a very strong test, since the hypothesis should hold here if anywhere.

MEASURES

Forms of Contact

The sheer volume of participation in this favorable setting consists of duration (the number of years a person reports playing duplicate bridge, averaging 13 years) and frequency (how often the person plays, from never to three or more times per week, averaging just over once a week). Centrality in the subculture is well indicated by the number of fellow players with whom a person is acquainted. We divided the 749 names on the membership list into six roughly random subsamples, and asked

people in each subsample to check off the names of players they knew by name and by sight. The number recognized on the subsample is a good guide to total network size, which we estimate averages something over 100 (identifying references deleted).

The subsamples also provide measures of contact in weak ties, since most of the people recognized were also respondents. For each person we first found all the people he or she recognized, and then computed their mean age, proportion female, and proportion of francophone origin. To measure contact in strong ties, we found the mean age and proportions female and francophone for the players (up to three) with whom a respondent reported playing most often in local games. Playing together as partners is the most important form of bridge relationship, generally requiring frequent and intense interaction. We also found the same measures for the players (up to three) most often seen socially (outside the bridge world), to investigate the possibility that more generalized strong ties are a more important kind of contact than ties limited to the bridge world itself. However results did not differ, and the number of cases dropped considerably since the bulk of bridge ties do not generalize outside the bridge world, so we will only present results for contact with partners.

Dimensions of Stereotyping

We measured perceptions with a set of semantic differentials, illustrated in Table 1. The items were selected to be meaningful in the bridge setting and to include topics from earlier literature in stereotyping (e. g. Gardner, Wonnacott, and Taylor 1968 for French Canadians; Shinar 1978 for men and women; and McTavish 1982 for older people.) The stimuli were: women as bridge players, men as bridge players, and women in general; older people as bridge players, younger people as bridge players, and older people in general; French Canadians as bridge players and as people in general; English Canadians as bridge players and as people in general. We recoded differentials when necessary to make larger scores reflect more desirable ratings.

-- Table 1 about here --

In finding the stereotyping measures defined above, the first step is identifying dimensions. Here this step produced very different results for age and gender on the one hand and ethnicity on the other. Inspection of correlations among differentials suggested two dimensions for age and gender stimuli, with moderately strong correlations of items on the same dimension and no correlation for items on different dimensions (Table 2). For each age and gender stimulus all the tentatively selected items were used in a principal factors factor analysis. The same two factors appeared for each stimulus, with roughly equal loadings. Task ability consists of: active, competitive, good concentration, decisive, high endurance, innovative, and

skilled. Social ability consists of courteous, patient, pleasant, and sociable.

-- Table 2 about here --

However, we were not able to find meaningful dimensions for ethnic stimuli. The task and social dimensions are clearly inappropriate (Table 2). Exploratory factor analysis suggested one large factor including virtually everything except innovative-conservative for both English and French Canadians. It is a dimension of generalized approval rather than a dimension of differentiation between groups. The mean difference between ratings of English Canadian players and of French Canadian players was substantial (.9 or more, $p < .01$) for only two items, with the English rated more calm and logical.

In sharp contrast, age and gender groups were rated quite differently on most of the items composing their task and social ability dimensions. The mean difference between ratings of male bridge players and female players was .9 or more for all four social ability items and six of seven task ability items; the difference between old and young players was .9 or more for three of the four social ability items and four of the seven task ability items. We conclude that the age and gender dimensions reflect differing group images, while the omnibus dimension for ethnic groups reflects a socially desirable response set of undifferentiated approval of everyone.

Why did we find no ethnic stereotyping dimensions? Perhaps our respondents do have stereotypes of English and French

Canadians and we would have found them if we had included more items allowing a contrast between the calm cool English and the excitable emotional French. Perhaps any set of items would have failed because English-French differences are a politically sensitive topic. Tensions between English and French Canadians do exist, inflamed for example by government policies favouring bilingual employees, and such tensions affect residents of Ottawa as much as anyone. One interviewer told of seeing a respondent fill out one page for one ethnic group, and then copy identical responses onto the corresponding page for the other group. Perhaps our respondents do not have stereotypes of the two ethnic groups we selected. "English Canadian" is a very broad label subsuming many distinct ethnic groups, while French Canadians may be too little known to be stereotyped. Reed (1980) argues that contact with members of a little known group initially generates the conventional stereotypes and only later begins to reduce stereotyping.

For whatever reason, we do lack ethnic stereotyping dimensions so the main body of our analysis will be limited to age and gender. However we will then turn to the available ethnic material and Reed's argument.

RESULTS

Perception versus Reality

Table 3 reports a variety of measures of the actual task and

social ability of our respondents. All measures are self-reports except for one measure of skill, master points won over a year overlapping our data collection. Master points are the official method of scoring competitive success, and data came from official records. Overall, Table 3 shows age and gender trends in the stereotypical direction. Women and older people are a little more likely to give social rather than competitive reasons for choosing a game or a partner or for liking bridge, they are more likely to use the most commonplace bidding system rather than a more innovative one; they scored less well on a test of bridge probability problems; they make more acquaintances in the bridge world; and they less often confess to socially disapproved behaviour such as giving their partners unrequested criticism during the game. Their greater activity in playing local games may seem counterstereotypical, but respondents probably do not think of playing activity when interpreting an active - passive dimension. More likely they think in terms of more or less aggressive styles of play. Thus all the measures that match semantic differentials closely show stereotypical trends, but note that all these trends are very weak. Indeed, laboratory subjects cannot detect correlations this small without the aid of statistics (Kahneman, Slovic, and Tversky 1982).

-- Table 3 about here --

Table 4 shows correlations between the age or gender of a bridge stimulus and the rating given on a differential. Our respondents consistently rated women bridge players higher than

men on social ability, and men players higher than women players on task ability. With a little less consistency they saw greater social ability and less task ability for older players as compared to younger ones. These perceptions are in the usual stereotypical direction, and they show perceived age and gender effects far stronger than the actual effects in Table 3, as hypothesized.

-- Table 4 about here --

Social cognition theorists also hypothesize that perception of stereotyped groups is distorted by selective perception. To investigate this, we asked whether the perception of women and older people as bridge players was influenced by a respondent's views of women and bridge players in general. Table 5 shows the correlation between ratings of women (or older people) as players and their general ratings. These correlations are all quite substantial. That is, our respondents see older bridge players much as they see older people, and women players much as they see women. General social stereotypes are imported into the bridge world and correspond to bridge perceptions much better than does bridge reality. This may be clearer in Figure 1, showing the mean ratings. Older people as players are rated like older people in general, and rated differently from younger bridge players, for example.

-- Table 5 about here --

For age and gender groups the hypotheses are clearly supported: differences between groups are exaggerated compared to

reality, and the misperceptions are constructed in part by expectations rooted in prevailing social stereotypes.

Consensus and Consistency

Since members of a group generally encounter and notice more individuating information about ingroup members, they tend to have varying perceptions of fellow group members while agreeing on a homogeneous image of outgroup members. Thus we predicted that group consensus would be greater for outgroups than for ingroups, and would be lower in the core than in the periphery. Table 6 shows the mean of the standard deviations of differentials from a given dimension, rating group, and rated group. For example, male raters differed more amongst themselves in rating the task ability of women (mean standard deviation = 1.326) than in rating the task ability of men (mean standard deviation = 1.059); contrary to prediction they have greater consensus about the outgroup over the seven task ability items. In general the ingroup-outgroup hypothesis is not supported. Young raters are about equally variable in rating young players and old ones, and the same is true for older raters. Female raters have a more homogeneous image of men than of women on task ability, but (as we just saw) men do too. Men tend to agree amongst themselves more, and to be seen in a more consistent way by themselves and by others, perhaps understandable given ongoing changes in women's roles and in sex role attitudes. Table 6 does show that core players give more varied ratings than peripheral players do for all four stimulus groups on both

dimensions, but these differences are very slight. Table 6 really shows the great pervasiveness of stereotypes across group boundaries: members of all subgroups are using the same dimensions with about the same degree of variability.

-- Table 6 about here --

Table 7 shifts to individual consistency in using these consensual dimensions. In each regression reported, the dependent variable is the standard deviation of a respondent's standardized ratings for a given dimension and stimulus. A person could get a low value, showing low variability of relative position and hence high constraint, by (say) always giving one of the highest task ability ratings for women or giving mostly middling evaluations of the social ability of men. A high score, or great individual variation relative to the whole sample, suggests that the rater is responding in an idiosyncratic manner based in private beliefs and experiences rather than in social stereotypes.

-- Table 7 about here --

Above we predicted that such individuated perception would be greater for ingroups, for raters with greater cognitive complexity, and for greater contact with the group rated. Thus the regressions in Table 7 include gender for gender stimuli and age for age stimuli; education, roughly indexing cognitive complexity; and all the four contact measures described earlier. The message of Table 7 is simple: none of these variables makes any difference. There is a weak but consistent negative effect

of education. This means that more educated people use the socially agreed dimensions more consistently, that is, they are rather better at translating their stereotyped perceptions into the semantic differential format.

At the individual as well as the group level, respondents of all types share the same dimensions and use them with comparable consistency. However differently age and gender groups may be rated, the framework for rating them is indeed socially shared.

Positive Perceptions

Next we ask whether groups are more positively perceived by their own members, by anyone having more contact with group members, or by the more highly educated. The dependent variables in the regressions in Table 8 are the means for standardized ratings for a given age or gender group and task or social dimension; the higher the score the more positive is the respondent's rating. The table does show some interesting effects, although not the ones predicted. Ingroups are not uniformly given more positive ratings. Instead, women and older people give more generous task ratings to ingroups and outgroups alike. Just as our respondents thought, these raters are more pleasant people. Education makes no difference at all. Most contact variables, including contact in weak ties and in partnerships, have weak inconsistent coefficients.

-- Table 8 about here --

Membership in the core of the subculture, here indicated by network size, has an impact just opposite to that predicted:

centrality makes perceptions more stereotypical. Those in the core rate older people and women even lower in task ability and higher in social ability than do raters in the periphery. To a less clear-cut degree, central players also tend to rate younger players and men higher in task ability and lower in social ability. The net effect is that core players see especially large differences between age and gender groups within the bridge world. Why does this happen?

First, core and periphery players share the same stereotyped expectations but core players can apply them in a less tentative and hence more extreme form. Core players have far more experience both in observing fellow players of different kinds and in discussing these observations with other elite players. Relatively rich experience generates confidence enough to make extreme judgments, as well as disagreement on just how extreme to be (Table 6).

Second, core players are highly motivated to notice any slight differences that may provide a competitive edge in competing with strangers. Even the faint age and gender differences in Table 3 provide information that would be useful over a long series of hands. Perhaps core players, unlike experimental subjects, can observe such trends because they observe with greater motivation over longer periods of time. Certainly expert players believe they know how various immediately observable traits are associated with bridge traits. Former world champion Helen Sobel (1961, p. 167) describes how

two women experts judged unknown opponents and planned strategy accordingly:

"As we arrived at each new table, there would usually be two men seated there, waiting for us. If, as we approached the table, the two men politely got up, greeted us, and pulled out our chairs, we knew immediately they were 'clucks.' We then would shoot the works -- bid psychics, double freely, and go for top on every board against them. If on the other hand, when we arrived at a new table and the two men seated there continued with their own conversation and completely ignored us, we'd know we were in for a tough time. These, obviously, were the local experts."

REFUSAL TO RATE FRENCH CANADIANS

Turning to ethnic groups, we must follow a modified line of analysis because we could not find useful dimensions of ethnic stereotyping. Perceptions of the two ethnic groups differ notably on only two semantic differentials, calm-excitable and emotional-logical, and we do not have corresponding measures of reality. For the measures we do have, francophone origin is irrelevant (its highest correlation with any of the measures in Table 3 is .06, $p > .05$). The ratings for each ethnic group as players do go with their general ratings (correlations vary from .32 to .57, $p < .01$) but this is because the groups are rated much alike in general as well as in bridge. Group consensus and

individual constraint could not be defined in the absence of dimensions represented by multiple items.

However one can measure positive perception for the two differentials on which English and French Canadians were rated far apart: calm-excitable and emotional-logical. We ran regressions parallel to those in Table 8, with the four sets of ratings as dependent variables and independent variables consisting of francophone origin, education, logged net size, time played, frequency of play, and the proportion francophone among acquaintances and among partners. None of the four R^2 values was significant and just one of the 28 coefficients was significant (at $p < .05$). Contact has no detectable effect on how the ethnic groups are rated.

Instead it has an effect on whether they are rated. Since we were not able to find useful dimensions of ethnic stereotyping, we asked whether stereotypes might be undeveloped because of lack of familiarity with the ethnic groups we chose (Reed 1980). There is no English Canadian "group," since anglophone Canada includes many distinct and well-known ethnic groups, and there are few French Canadians in the bridge setting. Only 10% of the players report French as the language first learned and still understood, and most of these play in English so their francophone origins might not be recognized.

Groups so poorly defined or rarely knowingly encountered might well lack stereotypes, which would account for both the high refusal rates for ethnic stimuli and the reasons given for

refusal. So many respondents criticized or refused the English Canadian items that we withdrew them from the later interviews and we have missing data on one or more differentials for 38% of the cases for English Canadians in general and 47% for English Canadians as bridge players. Even though we persisted with the French Canadian items, cases with missing data include 25% of respondents for "in general" and 36% for "as bridge players." This contrasts to rates varying from 10% to 13% for all the age and gender stimuli. Reasons for refusing to rate English or French Canadians as bridge players fell into three categories: practical (not enough time, poor vision; $N = 20$), explicit refusal to characterize groups (you can't generalize about such mixed groups, there are no real differences between English and French in general, etc.; $N = 44$), and claims of ignorance about French Canadian players (reports that few or no such players had ever been encountered; $N = 55$).

Moreover, people likely to know more French Canadian players are also more willing to rate them. Refusal to rate is a little less frequent among players of francophone origin, players with more bridge acquaintances of francophone origin, and the more widely experienced core players with larger networks (Table 9). These bridge-specific factors probably have little to do with a person's familiarity with French Canadians in general and so they do not affect refusals to rate this broader group (Table 9).

-- Table 9 about here --

While the trends in Table 9 are weak, they have an

interesting parallel with the results of the previous section. Core players, those most intensely involved in and exposed to the bridge world, are the players most willing to give extreme ratings of age and gender groups and they are also the players most willing to rate an ethnic group (French Canadians). In both types of case, contact actually increases stereotyping. For little known groups like French Canadian bridge players, some contact is needed before stereotypes develop. For well known age and gender groups, contact within a particular setting brings confidence in making extreme applications of general stereotypes. Within the limits of our data, stereotyping is never reduced in any sense by increases in any form of contact.

DISCUSSION

On the whole the contact hypothesis has failed, even in this unusually favorable setting. Neither the frequency and duration of activity, nor the proportion of group members in weak and in strong ties, reduces stereotyped perception in any sense. Involvement in the core of the subculture actually increases stereotyping in two ways. Core players are more willing than periphery players to give ratings for little-known groups and to give extreme ratings for well-known groups. Greater subcultural involvement, experience and communication only seems to give greater confidence in applying general stereotypes to the specific setting.

In the tradition of the literature we must ask whether the conditions of the hypothesis were after all not met in some crucial way, then whether the conditions should be modified, and only last whether the hypothesis should be abandoned.

One could argue that the very slight age and gender differences in real traits (Table 3) are enough to provide support for existing stereotypes. However, the real point is that far less support would still be enough. For example experimental work has shown that women will get task skill ratings equal to those for men -- but only if they are in fact much better (Pugh and Wahrman 1983). Mere equality is not enough to threaten stereotyped expectations of inequality.

Alternatively, one could modify the conditions of the contact hypothesis by pointing out that equality is more important in those who get more attention. We have shown that there is essentially no real difference between gender and age groups on the whole, but the same is not true for the elite bridge players. Of the dozen players gaining the most master points during a year roughly concurrent with our interviewing, all twelve are younger men.

Finally, one could argue that the setting is remarkably egalitarian and rich in intergroup interaction, but simply not very important. If so we must also discount many earlier studies supporting the contact hypothesis. Further, it is by no means clear that contact is currently more effective in more essential settings such as workplaces or kinship groups. Age, gender and

ethnic stratification are entrenched, there are real conflicts of interest, and stereotyping flourishes. In the long run legal and political action may lead to substantial equality of condition in the workplace and the home, and this may well be the only way in which stereotypes will be much weakened. But this requires change in the entire social structure, not just improvements in a particular firm or family. So long as the favorable setting is immersed in a still pervasively unequal society, prevailing stereotypes will continue to bias perception just as they do now in the bridge world.

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TABLE 1: DIFFERENTIAL ITEM

iv. OLD BRIDGE PLAYERS

Thinking about older people as bridge players, in your opinion they can generally be described as:

ACTIVE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	PASSIVE
EMOTIONAL	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	LOGICAL
PLEASANT	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	UNPLEASANT
FOOLISH	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	WISE
UNRELIABLE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	RELIABLE
COMPETITIVE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	NOT COMPETITIVE
THOUGHTFUL	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	IMPULSIVE
RUDE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	COURTEOUS
RIGID	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	ADAPTABLE
POOR CONCENTRATION	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	GOOD CONCENTRATION
INDECISIVE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	DECISIVE
CALM	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	EXCITABLE
SOCIABLE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	UNSOCIABLE
INNOVATIVE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	CONSERVATIVE
SKILLED	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	UNSKILLED
HIGH ENDURANCE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	LOW ENDURANCE
IRRITABLE	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	PATIENT

TABLE 2: MEDIAN INTERITEM CORRELATIONS,
WITHIN AND BETWEEN DIMENSIONS

<u>Group Rated</u>	<u>Median r for:</u>		
	<u>Task Ability</u>	<u>Social Ability</u>	<u>Task vs. Social</u>
Male Players	.28	.44	.03
Female Players	.37	.43	-.02
Older Players	.38	.51	.06
Younger Players	.31	.46	-.04
English Players	.33	.50	.26
French Players	.30	.53	.23

TABLE 3: CORRELATIONS BETWEEN RESPONDENT'S AGE OR GENDER AND TRAITS
RELATED TO DIFFERENTIALS

<u>Differential/Trait</u>	<u>Age</u>	<u>Gender</u>	<u>N^a</u>
<u>Active</u>			
Overall playing frequency	.135**	.104**	532
Number local tournaments	-.114*	.048	475
Number other tournaments	-.078	.013	506
<u>Competitive</u>			
Likes bridge because competitive	.016	-.106*	540
Likes local game for strong competition	-.178**	-.106*	540
<u>Conservative</u>			
Uses Standard American bidding	.124**	.159**	540
<u>Skilled</u>			
Master points (logged) won over year	-.105*	.061	421
Bridge quiz score	-.286**	-.239**	342
<u>Sociable</u>			
Likes bridge as way to meet people	.084	.166**	540
Players known by (logged)	.106**	.139**	542
Prefers pleasant partner, local games	-.000	.073	540
Pleasant partner, tournaments	-.010	.079	540
<u>Rude/Unpleasant</u>			
Holds up the play	-.181**	-.075	523
Peeks at cards	-.074	-.142**	523
Peeks after warning opponent	-.142**	-.101*	522
Criticizes partner	-.097*	-.169**	521
Harasses opponents	-.154**	-.090*	518

^a N given is for age; N for gender is one larger

* P < .05

** P < .01

Table 4: Correlations between Stimulus Age
or Gender and Differentials^a

	<u>Female vs. Male Stimulus</u>	<u>Older vs. Young</u>
<u>Task Ability</u>		
active	-.42**	-.49**
competitive	-.35**	-.40**
concentration good	-.36**	-.26**
decisive	-.41**	.06
endurance high	-.37**	-.43**
innovative	-.60**	-.64**
skilled	-.29**	.14**
<u>Social Ability</u>		
courteous	.46**	.37**
patient	.38**	.36**
pleasant	.43**	.22**
sociable	.44**	.33**

^a Differentials recoded so higher scores represent higher ability.

* $p < .05$

** $p < .01$

Table 5: Correlations between Bridge-specific
and General ratings^a

	<u>Women Bridge Players vs. Women in General</u>	<u>Older Bridge Players vs. Older People in General</u>
<u>Task Ability</u>		
Active	.41**	.58**
Competitive	.29**	.32**
Concentration Good	.38**	.50**
Decisive	.39**	.45**
Endurance High	.30**	.49**
Innovative	.24**	.46**
Skilled	.28**	.42**
<u>Social Ability</u>		
Courteous	.36**	.57**
Patient	.36**	.43**
Pleasant	.22**	.40**
Sociable	.26**	.50**

^a Differentials recoded so higher scores represent higher ability

* p < .05

** p < .01

TABLE 6: GROUP CONSENSUS^a

	Type of Bridge Player Rated							
	(N)	Women	(N)	Men	(N)	Older	(N)	Younger
<u>Male Raters</u>								
Task Ability	(340)	1.326	(339)	1.059	(333)	1.254	(330)	1.296
Social Ability	(342)	1.237	(341)	1.205	(337)	1.295	(333)	1.248
<u>Female Raters</u>								
Task Ability	(157)	1.485	(157)	1.249	(153)	1.459	(147)	1.496
Social Ability	(155)	1.456	(158)	1.446	(153)	1.365	(147)	1.442
<u>Raters Under 37</u>								
Task Ability	(161)	1.362	(161)	1.067	(157)	1.417	(159)	1.368
Social Ability	(162)	1.307	(162)	1.190	(159)	1.281	(160)	1.360
<u>Raters 37-54</u>								
Task Ability	(194)	1.389	(193)	1.151	(188)	1.309	(189)	1.332
Social Ability	(194)	1.290	(194)	1.263	(190)	1.313	(190)	1.310
<u>Raters 55 or Older</u>								
Task Ability	(142)	1.382	(141)	1.160	(138)	1.349	(129)	1.319
Social Ability	(140)	1.342	(142)	1.382	(138)	1.291	(130)	1.348
<u>Core Raters</u>								
Task Ability	(258)	1.464	(256)	1.136	(253)	1.376	(248)	1.415
Social Ability	(256)	1.332	(258)	1.323	(254)	1.326	(249)	1.400
<u>Peripheral Raters</u>								
Task Ability	(240)	1.269	(240)	1.112	(233)	1.293	(230)	1.308
Social Ability	(241)	1.275	(241)	1.237	(236)	1.309	(231)	1.195

^a Entries are the means of item standard deviations; higher values imply lower consensus.

Table 7: Individual Constraint^a

Multiple Regressions for Age Stimuli

<u>Intercept</u>	<u>Age</u>	<u>Education</u>	<u>Logged Net Size</u>	<u>Time Played</u>	<u>Frequency</u>	<u>Mean Age of Acquaintances</u>	<u>Mean Age of Partners</u>	<u>Dependent Variable</u>	<u>R²</u>	<u>N</u>
.575**	-.000 (-.004) ^b	-.005 (-.037)	.016 (.020)	-.004 (-.103)	.017 (.081)	-.001 (-.021)	.003 (.093)	older, social	.024	342
.924**	.000 (.020)	-.016** (-.160)	-.010 (-.015)	-.001 (-.046)	-.001 (-.008)	.002 (.053)	-.000 (-.021)	older, task	.031	342
.892**	.000 (.012)	-.009 (-.078)	-.009 (-.012)	.003 (.091)	-.002 (-.012)	-.001 (-.016)	-.002 (-.060)	younger, social	.015	332
.873**	-.001 (-.024)	-.009 (-.075)	.032 (.042)	-.006** (-.163)	.004 (.019)	-.001 (-.022)	.002 (.084)	younger, task	.033	333

Multiple Regressions for Gender Stimuli

<u>Intercept</u>	<u>Female vs. male</u>	<u>Education</u>	<u>Logged Net Size</u>	<u>Time Played</u>	<u>Frequency</u>	<u>Proportion Female for: Acquaintances</u>	<u>Partners</u>	<u>Dependent Variables</u>	<u>R²</u>	<u>N</u>
.687**	.043 (.052)	-.012 (-.096)	.006 (.008)	-.002 (-.050)	-.005 (-.022)	.048 (.029)	.031 (.034)	women, social	.022	348
.593**	.058 (.092)	-.006 (-.059)	-.003 (-.004)	.000 (.009)	-.006 (-.040)	.133 (.106)	-.014 (-.020)	women, task	.030	348
.682**	.073 (.084)	-.026** (-.207)	.041 (.050)	.000 (.009)	-.012 (-.056)	.148 (.086)	.042 (.043)	men, social	.085**	347
1.043**	.143** (.155)	-.022** (-.160)	.029 (.032)	-.003 (-.077)	-.007 (-.030)	-.102 (-.056)	.002 (.002)	men, task	.067**	347

a. Standard deviation of standardized items; lower values mean greater constraint.

b. Standardized regression coefficients in brackets.

* p < .05 ** p < .01

Table 8: Individual Ratings^a

Multiple Regressions for Age Stimuli

<u>Intercept</u>	<u>Age</u>	<u>Education</u>	<u>Logged Net Size</u>	<u>Time Played</u>	<u>Frequency</u>	<u>Mean Age of Acquaintances</u>	<u>Mean Age of Partners</u>	<u>Dependent Variable</u>	<u>R²</u>	<u>N</u>
.022	-.001 (-.020) ^b	-.003 (-.013)	.152 (.096)	.006 (.071)	-.091** (-.215)	.002 (.022)	.002 (.034)	older, social	.051	342
-.463	.006 (.116)	.005 (.022)	-.180* (-.130)	-.009* (-.129)	-.042* (-.113)	-.003 (-.027)	.014** (.276)	older, task	.143	342
.217	-.005 (-.089)	-.008 (-.034)	-.089 (-.055)	-.004 (-.052)	.021 (.040)	-.002 (-.016)	.006 (.095)	younger, social	.013	333
.140	.007 (.152)	-.018 (-.088)	-.009 (-.007)	.013* (.190)	-.041* (-.116)	-.001 (-.011)	-.003 (-.051)	younger, task	.092	333

Multiple Regressions for Gender Stimuli

<u>Intercept</u>	<u>Female vs. Male</u>	<u>Education</u>	<u>Logged Net Size</u>	<u>Time Played</u>	<u>Frequency</u>	<u>Proportion Female for: Acquaintances</u>	<u>Partners</u>	<u>Dependent Variables</u>	<u>R²</u>	<u>N</u>
-.040	-.034 (-.021)	.015 (.062)	.347** (.223)	.006 (.076)	-.007 (-.018)	-.363* (-.112)	-.060 (-.033)	women, social	.072**	348
.265	.221** (.148)	-.021 (-.096)	-.413** (-.288)	.003 (.040)	-.017 (-.043)	.140 (.047)	.063 (.037)	women, task	.127**	348
.065	-.014 (-.009)	-.010 (-.041)	-.302** (-.195)	.010* (.126)	.005 (.011)	.193 (.060)	.015 (.008)	men, social	.049*	347
-.158	.206* (.153)	-.019 (-.094)	.060 (.046)	.003 (.040)	-.002 (-.007)	.036 (.013)	.022 (.015)	men, task	.051*	347

a. Mean of standardized items; higher values mean higher ability.

b. Standardized regression coefficients in brackets.

* p < .05 ** p < .01

Table 9: Logistic Regressions^a for Refusal to Rate French Canadians

Independent Variable	Refused to Rate French Canadians As:			
	People in General		Bridge Players	
	Coefficient	R	Coefficient	R
Francophone Origin	-.658	.000	-.918	-.054
Education	-.069	-.043	-.044	.000
Logged Net Size	-.290	.000	-.753**	-.117
Time Played	-.005	.000	-.005	.000
Frequency	.116	.000	.083	.000
Proportion Francophone:				
Acquaintances	.054	.000	-1.38	-.033
Partners	-.905	.000	-.023	.000
Intercept	-.182	--	.605	--
Model χ^2	9.48		15.44*	
Rho	.237		.267	
N	359		359	

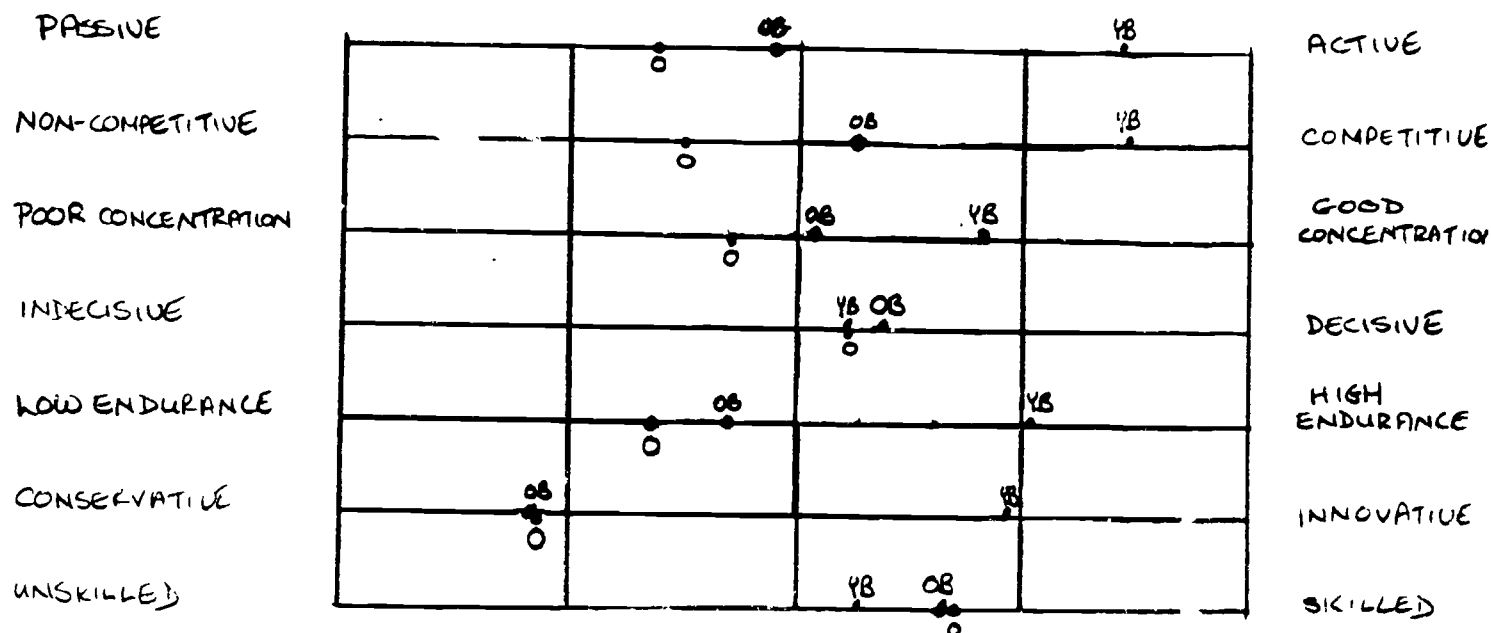
^a Computed using PROC LOGIST from SAS. Coefficients are maximum likelihood estimates; R is a measure of an independent variable's contribution and is set to zero if the variable's chi-square is less than 2; Rho is the rank-order correlation of predicted probability and actual response.

* $p < .05$

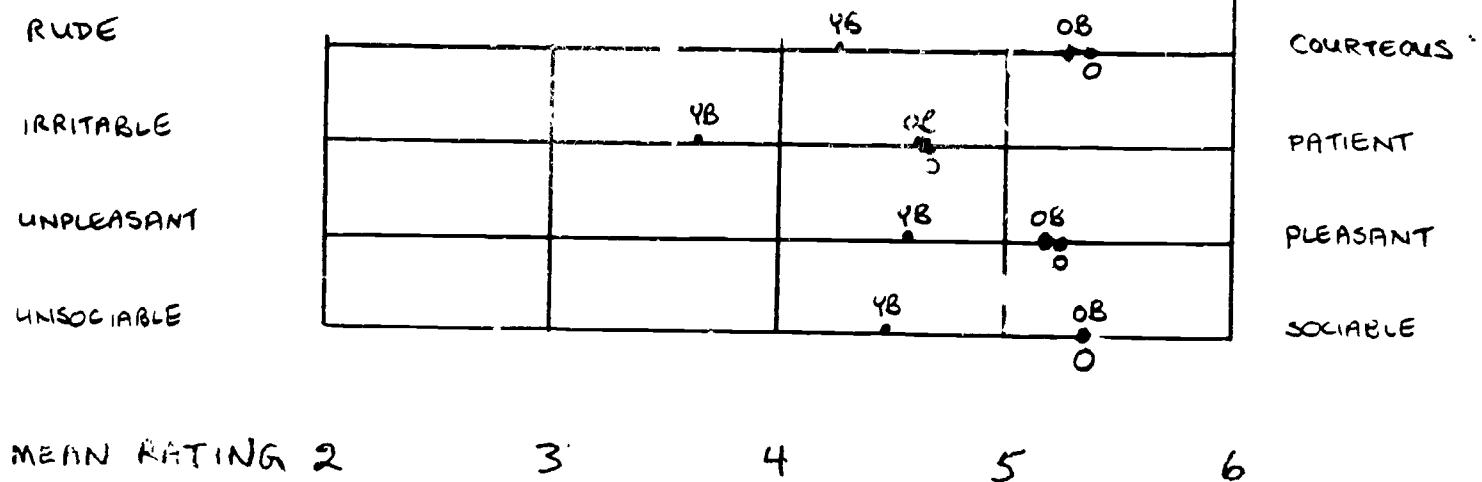
** $p < .01$

Figure 1: Mean Ratings of Age Groups

Task Ability



Social Ability



O = OLDER PEOPLE IN GENERAL
 OB = OLDER PEOPLE AS BRIDGE PLAYERS
 YB = YOUNGER PEOPLE AS BRIDGE PLAYERS